1. Two strategies for estimating sums are fraction benchmarks and unit fractions.

To use fraction benchmarks to estimate fraction sums, first mentally think of some fraction benchmarks. For example, 0, 1/3, 1/4, 1/2, 2/3, 3/4, and 1. You can then round, or estimate, which fraction benchmarks are closest to the fractions you are adding. Then, if you know the sum of those two fraction benchmarks, you can round to find the area in which the sum of the two fractions would be.

For example, to find the sum of 3/8 and 5/6, we can first round to the nearest fraction benchmark. The closest benchmark for 3/8 would be 1/4, because 2/8 is 1/4, and the closest benchmark for 5/6, would be 1. 1/4 + 1 = 1 1/4. The sum of 3/8 and 5/6 is about 1 1/4.

Fraction benchmarks are very helpful for estimating sums, because when you have very large and different numbers, it's easier to approximate and then add.

To use unit fractions to estimate fraction sums, first see how much the fractions are away from a whole. For example, 6/7 is one away from a whole, but 3/5 is not. If you have two fractions which are one unit fraction away from a whole, or a fraction with a numerator of one, you can round it up from one. You can also take one unit fraction from the other fraction you are adding, and "transfer" it over to the other fraction, to estimate how large the sum of the fractions would be.

For example, to find the sum of 7/8 and 3/4, we can first see how many unit fractions the fractions are away from a whole. 7/8 is one unit fraction away from a whole, 3/4 is also one unit fraction away from a whole. 3/4 is also one unit fraction over one half. Then we can round the fractions. 7/8 is close to 1, 3/4 is also close to 1, then the sum of 7/8 and 3/4 is about 2, but a little under, because we rounded up both times. You can also round 7/8 to 1, and 3/4 to 1/2, "transferring" the 1/4 from 3/4 to 7/8. 1 + 1/2 = 1 1/2, but a little over, because 1/4 is more than 1/8. We now know the sum of 7/8 and 3/4 is between 1 1/2 and 2.

Unit fractions are very helpful for estimating sums, because when you have numbers close to a whole number, it's easier to get a more accurate number.

1. Underestimates are used when you do not need extra, or when you are just looking for an estimate. You can underestimate when you have already overestimated, or when you're expecting a gift and you don't want to be disappointed.

Overestimates are used when you need to make sure you have enough, and you want to make sure you have extra just in case. You can overestimate when you're buying materials, or food for a party.